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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,787	10/26/2001	Martin Lenfers	10191/2072	6062

26646 7590 02/10/2004

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EXAMINER

OLSEN, KAJ K

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,787

Applicant(s)

LENFERS ET AL.

Examiner

Kaj Olsen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 11 specifies the presence of a third electrolyte layer and states that the barrier is situated in regions between the second and third electrolyte layers. The examiner fails to understand how this limitation is disclosed in the specification. According to the specification, the second electrolyte and third electrolyte layers are 52 and 53 respectively and the barrier layer is 24. How can element 24 of the figures be construed as being between layers 52 and 53? The examiner believes the applicant means to refer to the first and third electrolyte layers, but clarification is requested.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. Claims 1-8, 11 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Oshima et al (USP 6,071,393). Oshima is being cited for the first time with this office action.

6. With respect to claim 1, Oshima discloses a sensor element for determining a concentration of a gas component in a gas mixture, comprising a measuring gas chamber 2, at least one pump cell 6 including at least one first pump electrode 6-b situated in the measuring gas chamber and at least one second pump electrode 6-a situated on a surface of the sensor element facing the gas mixture (fig. 2 and col. 13, lines 40-58). Oshima further discloses a first solid electrolyte layer 5-1 situated between the first and second pump electrodes, a reference gas chamber 9, at least one concentration cell including at least one reference electrode 7-b situated in the reference gas chamber, and at least one measuring electrode 7-a cooperating with the reference electrode and being situated in the measuring gas chamber (fig. 2 and col. 16, lines 32-42). Oshima further discloses a second solid electrolyte layer 5-3 adjacent to the first solid electrolyte layer, in which the reference gas chamber and the measuring gas chamber are situated (fig. 2), and at least one barrier layer 11-1 substantially preventing ionic conduction between at least one of the electrodes of the pump cell and at least one of the electrodes of the concentration cell (fig. 2 and col. 17, lines 15-35).

7. With respect to claim 2, using the sensor for measuring oxygen concentration is only the intended use of the apparatus and the intended use need not be given further due consideration in determining patentability. However, see fig. 10 and col. 18, lines 45-55.

8. With respect to claim 3, barrier 11-1 would substantially prevent ionic conduction from any of the electrodes on one side of the barrier (including electrode 7-b) to any of the electrodes on the other side of the barrier (including 6-a).

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9. With respect to claim 4, see fig. 2.
10. With respect to claims 5, 6, and 8, see fig. 2, steps 5 and 12 of fig. 22A, and fig. 46.
11. With respect to claim 7, see col. 1, line 53.
12. With respect to claim 11 as best understood, 5-2 or 5-4 can be construed as being a third electrolyte layer and barrier 11-1 is situated between these and 5-1 (fig. 2).
13. With respect to claim 12, fig. 22A and 46 show the barrier layers extending over the lead regions of the electrodes.

Allowable Subject Matter

14. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
15. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose nor render obvious all the limitations of claim 8 and further comprising a further reference electrode that lies opposite the reference electrode in the reference gas channel.

Response to Arguments

16. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mase (USP 4,755,274) teaches the use of barrier layers (e.g. 106 of fig. 11-15) between the pump and sensor cells. Wang (USP 5,217,588) teaches the obviousness of insulating the various pumping and sensing cells from each other (see fig. 5 and col. 4, lines 4-10).

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaj Olsen whose telephone number is (571) 272-1344. The examiner can normally be reached on Monday through Thursday from 7:00 AM-4:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Mr. Nam Nguyen, can be reached at (571) 272-1342.

When filing a fax in Group 1700, please indicate in the header "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of this application. This will expedite processing of your papers. The fax number for all official communications is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (571) 272-1300.



Kaj K. Olsen
Primary Examiner
AU 1753
February 2, 2004